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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/914,484	01/10/2002	Mitsuru Suginoya	S004-4374	8046

7590 09/07/2005

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EXAMINER	
DI GRAZIO, JEANNE A	

ART UNIT	PAPER NUMBER
2871	

DATE MAILED: 09/07/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/914,484	SUGINOYA, MITSURU	
	Examiner	Art Unit	
	Jeanne A. Di Grazio	2871	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *20 June 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,3,4,19,20 and 22-30* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,3,4,19,20 and 22-30* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *20 June 2005* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *3 June 2005*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claims

Claims 1, 3, 4, 19-20, 22 and 23-30 are pending and the subject of the instant Office Action. Claims 1, 3, 4, 18-20 and 22 are amended per Amendment of June 20, 2005. Claims 23-30 are newly added per Amendment of June 20, 2005.

Priority

Priority to Japanese Patent Application No. 11-054602 (March 2, 1999) is claimed.

Drawings

The drawings were received on June 20, 2005. These drawings are FIGURE 7.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1, 3-4, 19-20 and 22-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's Admitted Prior Art (APA) Figure 7 in view of United States Patent 5,917,569 (to Tanuma et al.) and further in view of United States Patent 5,390,037 (to Negishi).

As to claims 1 (amended) and 23-25 (newly added claims), APA Figure 7 and Specification at pages 1-5 teach and disclose a conventional Super Twisted Nematic liquid crystal display unit and a conventional manufacturing method.

APA discloses polymeric substrates (21 and 24), transparent substrate 22 and transparent electrode 25 upon which are formed orientation films (23 and 26). Continuing the discussion of conventional art, the Specification teaches that an orientation film solidifying process and an orientation process can be continuously performed by using the polymeric substrate (with reference to the conventional manufacturing method)(SPEC p. 2, lines 18-23).

APA does not appear to explicitly specify that the orientation film is vertically aligned (VA) and that the substrate moves.

However, Tanuma teaches and discloses an LCD with particular rubbing techniques and having different anchoring energies between pixel and non-pixel regions (Title, entire patent).

In Tanuma, alignment film (at least 25A) is rubbed to impart a vertical alignment mode to the liquid crystal molecules (See Figure 11b, circle magnifying the liquid crystal molecular orientation as vertically aligned). A substrate is furthermore moved (See Figures 12 and 17).

Tanuma teaches and discloses that rubbing of an alignment film and substrate speed are at least two factors that affect light transmittance, operating voltage and anchoring energy (Column 7, Lines 52-67).

Tanuma is evidence that ordinary workers in the field of liquid crystals would have found the reason, suggestion and motivation to select a vertically aligned alignment film and moving substrate relative to the rubbing of the vertically aligned film for at least three reasons: (1) to affect light transmittance, (2) operating voltage and (3) anchoring energy (Column 7, Lines 52-67).

Therefore, it would have been obvious to one of ordinary skill in the art of liquid crystals at the time the invention was made to modify APA in view of Tanuma for at least three reasons: (1) to affect light transmittance, (2) operating voltage and (3) anchoring energy (Column 7, Lines 52-67).

APA does not appear to explicitly specify that the substrate is continuously fed from the roll in the longitudinal direction during the second, third, fourth, fifth and sixth process steps.

However, Negishi teaches and discloses a liquid crystal molecule orienting method whereby an orientation film is continuously fed and rubbed through a rubbing roll and backup roll (Abstract, entire patent).

Therefore, it would have been obvious to one of ordinary skill in the art of liquid crystals at the time the invention was made to modify APA in view of Negishi for uniform and efficient rubbing (Abstract, entire patent).

As to claim 3, Tanuma features illumination by ultraviolet light (Figure 20b).

As to claim 4, Tanuma features alignment by rubbing (entire patent) along the length of the substrate (entire patent).

As to claims 19-20 and 22, a polyimide is used as a material for first and second alignment films (Tanuma, Column 20, first example, lines 53-56).

As to claims 1 (amended) and 23-25 (newly added claims), APA Figure 7 and Specification at pages 1-5 teach and disclose a conventional Super Twisted Nematic liquid crystal display unit and a conventional manufacturing method.

As to claims 26-30 (newly added claims),APA Figure 7 and Specification at pages 1-5 teach and disclose a conventional Super Twisted Nematic liquid crystal display unit and a conventional manufacturing method.

APA discloses polymeric substrates (21 and 24), transparent substrate 22 and transparent electrode 25 upon which are formed orientation films (23 and 26). Continuing the discussion of conventional art, the Specification teaches that an orientation film solidifying process and an orientation process can be continuously performed by using the polymeric substrate (with reference to the conventional manufacturing method)(SPEC p. 2, lines 18-23).

APA does not appear to explicitly specify that the orientation film is vertically aligned (VA) and that the substrate moves.

However, Tanuma teaches and discloses an LCD with particular rubbing techniques and having different anchoring energies between pixel and non-pixel regions (Title, entire patent).

In Tanuma, alignment film (at least 25A) is rubbed to impart a vertical alignment mode to the liquid crystal molecules (See Figure 11b, circle magnifying the liquid crystal molecular orientation as vertically aligned). A substrate is furthermore moved (See Figures 12 and 17).

Tanuma teaches and discloses that rubbing of an alignment film and substrate speed are at least two factors that affect light transmittance, operating voltage and anchoring energy (Column 7, Lines 52-67).

Tanuma is evidence that ordinary workers in the field of liquid crystals would have found the reason, suggestion and motivation to select a vertically aligned alignment film and moving substrate relative to the rubbing of the vertically aligned film for at least three reasons: (1) to affect light transmittance, (2) operating voltage and (3) anchoring energy (Column 7, Lines 52-67).

Therefore, it would have been obvious to one of ordinary skill in the art of liquid crystals at the time the invention was made to modify APA in view of Tanuma for at least three reasons: (1) to affect light transmittance, (2) operating voltage and (3) anchoring energy (Column 7, Lines 52-67).

APA does not appear to explicitly specify that the substrate is continuously fed from the roll in the longitudinal direction during the second, third, fourth, fifth and sixth process steps.

However, Negishi teaches and discloses a liquid crystal molecule orienting method whereby an orientation film is continuously fed and rubbed through a rubbing roll and backup roll (Abstract, entire patent).

Please also note that Negishi teaches and discloses the use of two rolls in the formation of the orientation film.

Therefore, it would have been obvious to one of ordinary skill in the art of liquid crystals at the time the invention was made to modify APA in view of Negishi for uniform and efficient rubbing (Abstract, entire patent).

Response to Arguments

Applicant's arguments with respect to said claims have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

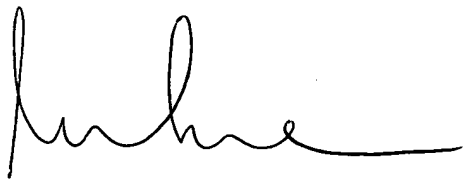
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeanne A. Di Grazio whose telephone number is (571)272-2289. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Kim, can be reached on (571)272-2293. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Jeanne Andrea Di Grazio
Patent Examiner
Art Unit 2871

JDG



DUNG T. NGUYEN
PRIMARY EXAMINER